

- ⁴ Dahlström, G, and Difs, H, *Acta Tuberculosea Scandinavica*, 1951, 25, suppl 27.
⁵ British Thoracic and Tuberculosis Association Report, *Tubercle*, 1975, 56, 129.
⁶ Waaler, H, and Rouillon, A, *Bulletin of the International Union Against Tuberculosis*, 1974, 49, no 1, 166.
⁷ Nicholls, A C, *Journal of Clinical Pathology*, 1975, 28, 850.

Teething myths

Doctors and patients have a feeling of satisfaction when a name has been put to a condition, whether the name means anything or not. Nevertheless, there is sometimes a danger that this process may give a wrong sense of security and lead to tragic errors of diagnosis. The diagnosis of teething is a clear example. Hippocrates wrote that "teething children suffer from itching of the gums, fever, convulsions, diarrhoea, especially when they cut their eye teeth, and when they are very corpulent and costive." According to Guthrie's fascinating account¹ of the historical aspects of teething, Arbuthnot wrote in 1732 that "above one-tenth part of all children die in teething (some of them from gangrene)." The Registrar General's report of 1839 attributed 5016 deaths in England and Wales to teething, and the 1842 report ascribed 12% of all deaths under 4 years to the condition.

Because he believed that many doctors retain mythical beliefs about teething Honig² wrote to 70 practising paediatricians in Philadelphia asking them what signs and symptoms they ascribed to teething and what treatment they prescribed. Sixty-four replied. Only five thought that teething did not cause symptoms: the others blamed teething for diarrhoea, nappy rashes, rashes on the face, colic, ear pulling, thickening of the gums, otitis media, bronchitis, eye blinking, increased secretion of mucus, salivation, irritability, fever, and maternal stress. A quarter of them thought that teething could raise the temperature to 38°C or more—even up to 39.4°C. The treatment prescribed included aspirin, topical anaesthetics, opium, paracetamol, antihistamines, whisky to the gum, chloral, phenobarbitone, nasal aspiration, rubbing the gums, ice to the gum, and biting on teething rings, celery, or carrot; some relied (sensibly) on reassurance.

During the teething period virtually all babies and small children have spots on the face, or a nappy rash, or a cold and cough, and may experience an attack of diarrhoea; about 6% have a convulsion associated with fever, breath-holding, or otherwise. But in a thorough search of the published sources with the help of the *Index Medicus* Illingworth³ could find no evidence that teething was responsible for fever, diarrhoea, bronchitis, convulsions, or rashes. It would indeed be difficult to imagine how teething would cause a virus or other organisms to invade the alimentary or respiratory tract. Illingworth also made the point that much of the evening and nocturnal crying of the 5-12-month-old baby which is ascribed to teething is in fact due to bad habit formation and mismanagement—the baby having discovered that as soon as he cries at night he is picked up, taken down stairs, played with, and given a thoroughly enjoyable time.

In Oulu in North Finland Arvi Tasanen⁴ conducted a long careful study of 126 normal infants in an institution, with daily recording of the appearance of the gums, their temperature, infections, fits, or other symptoms. He showed conclusively that the eruption of a tooth bore no relation whatsoever to the incidence of infections, diarrhoea, bronchitis, fever, rashes, convulsions, sleeplessness at night, or ear rubbing. It was,

however, associated with some restlessness by day and some increase of salivation, thumb sucking, and gum rubbing, and sometimes with refusal of food.

There can be no excuse for ascribing fever, fits, diarrhoea, bronchitis, or rashes to teething. Paediatricians see many tragedies arising from this diagnosis—leading to delay in the identification and treatment of convulsions, pyogenic meningitis, bronchopneumonia, gastroenteritis, urinary tract infection, and other serious conditions.

¹ Guthrie, L, *British Medical Journal*, 1908, 2, 468.

² Honig, P J, *Journal of Pediatrics*, 1975, 87, 415.

³ Illingworth, R S, *The Normal Child*, 6th ed. Edinburgh, Churchill Livingstone, 1975.

⁴ Tasanen, A, *Annales Paediatricae Fenniae*, 1968, 14, suppl 29.

Books for Christmas

Doctors who gain pleasure from their reading rarely confine themselves to their own discipline, and until very recently medical practitioners expected to accumulate libraries which showed evidence of the range of their cultural and scientific interests. This love of books seems to be surviving the horrifying rise in their cost in the last three or four years; buying books for pleasure has become one of the more expensive forms of self-indulgence, but it is a habit difficult to break once formed, and many of us will be giving and receiving them again this Christmas.

A new edition of Beeson and McDermott¹ does not have much obvious seasonal appeal, perhaps, yet despite their high cost and the pace of change in medical knowledge large comprehensive medical textbooks seem to have retained their popularity among students and practitioners. The survival of these dinosaurs is one topic discussed in the supplement of reviews and essays that occupies most of the Medical Practice section this week (p 627). Our usual range has been extended to subjects on the periphery of medicine, including Evelyn Waugh's mental state and a doctor's experiences as a prisoner of war. Like all book reviews, these are meant for browsers as well as potential purchasers; we hope that the supplement will provide relaxation for those of our readers who, like Ecclesiastes's preacher, believe that "much study is a weariness of the flesh."

¹ *Textbook of Medicine*, ed P B Beeson and W McDermott, 14th edn. Philadelphia, Saunders, 1975.

Bronchiectasis today

Bronchiectasis is the condition of dilatation of the bronchi and bronchioles. It may be localised to a lobe or a segment of a lobe or may be more widespread. Chronic infection of the bronchiectatic area invariably occurs. It usually starts in infancy, but it may also occur in adult life. In infants and childhood either the disease arises as a result of a primary lung infection or there is an underlying primary lesion of the lung which predisposes to lung infection.¹ Whatever the cause, therefore, in bronchiectasis there is both dilatation (tubular or saccular) and infection of the bronchi, leading to cough with persistent sputum, which is frequently purulent. Haemoptysis may occur, and the child's health is often poor generally.

When primary lung infection is the main aetiological factor the common causes are viral bronchitis or bronchiolitis, often complicating pertussis or measles, and bacterial pneumonia. Bronchiectasis frequently occurs in fibrocystic disease and in congenital or acquired hypogammaglobulinaemia, because these patients are especially prone to lung infections. Among primary lung lesions are congenital bronchiectasis; situs inversus and sometimes pulmonary sequestration (Kartagener's syndrome²), which tends to show an autosomal recessive mode of inheritance and to be associated with low serum IgA levels³; and bronchomalacia due to congenital absence of cartilage distal to the first division of the peripheral bronchi (Williams-Campbell syndrome⁴). More common are lung collapse and subsequent infection due to inhaled foreign bodies, infected congenital cysts, and inhalation pneumonia. In adults, bronchiectasis is most commonly a result of lung collapse, which is often due to bronchial carcinoma or tuberculous bronchial stenosis, and it may also occur in diseases complicated by bronchopulmonary aspergillosis.⁵

Whatever the underlying cause of the bronchiectasis the common infecting organisms are *Haemophilus influenzae* and *Streptococcus pneumoniae*, and infection with *Staphylococcus aureus* is an ever-present risk, especially in fibrocystic disease. The physical signs depend on the stage of the disease. There may be none, but in more advanced cases there is upper respiratory tract sepsis, purulent sputum (very rarely fetid), and finger clubbing, while signs of collapse and consolidation are frequent over the damaged and infected area of lung. Persistent medium or coarse post-tussive crepitations over the bronchiectatic area are a frequent and important physical sign. A plain chest radiograph may show areas of collapse and consolidation, cyst-like shadows, and bronchial dilatation, but for diagnosis and to demarcate the extent of the disease bilateral bronchography is essential. Complications of the disease include lung abscess and empyema and more rarely cerebral abscess or suppurative encephalitis.

The incidence of bronchiectasis is less than it was. Between 1952 and 1960 the hospital admission rate for children fell four fold.⁶ This reflects the control of infection by antibiotics and the reduced incidence of childhood respiratory infections attributable to immunisation against the specific fevers.

In treatment prevention is of first importance. Pulmonary infections should receive thorough treatment with appropriate antibiotics and with postural drainage to ensure that areas of collapsed lung expand. Upper respiratory sepsis must be sought out and treated, and in hypogammaglobulinaemia injections of concentrated gammaglobulin will be needed every four weeks or so. In established bronchiectasis the aim is to keep the airways clear of secretion by a properly learnt technique of postural drainage; this is combined with control of infection by broad-spectrum antibiotics such as tetracycline, oxytetracycline, ampicillin, or amoxycillin. Co-trimoxazole is an effective drug, but when given over a long period it may lead to folic acid deficiency. If *Staph aureus* is grown from the sputum ampicillin should be combined with cloxacillin, unless the organism is sensitive to benzylpenicillin. Antibiotics are probably best given only when the sputum is purulent, and in some patients vigorous medical treatment as outlined may lead to a reversal of the bronchiectatic disease.¹ As these young patients grow up they should be warned against the dangers of smoking. Surgical resection of the bronchiectatic area must be considered only when the patient has had an adequate course of medical treatment without any real improvement. Those most likely to benefit will have localised disease with prominent cough and sputum.

- ¹ Williams, H E, and Phelan, P D, *Respiratory Illness in Children*, p 198. Oxford, Blackwell, 1975.
- ² Kartagener, M, *Beiträge zur Klinik der Tuberkulose und spezifischen Tuberkulose-Forschung*, 1933, 83, 489.
- ³ Holmes, L B, Blennerhassett, J B, and Austen, K F, *American Journal of Medical Science*, 1968, 255, 13.
- ⁴ Williams, H, and Campbell, P, *Archives of Disease in Childhood*, 1960, 35, 182.
- ⁵ Crofton, J, and Douglas, A, *Respiratory Diseases*, p 429. Oxford, Blackwell, 1969.
- ⁶ Field, C E, *Archives of Disease in Childhood*, 1969, 44, 551.

Search for presymptomatic large bowel cancer

The quest to reduce cancer deaths, enshrined in the United States National Cancer Plan, is watched with a mixture of interest and scepticism in Western Europe. Apart from screening for cervical cancer the NHS has yet to commit its already stretched resources to a large-scale hunt for presymptomatic cancer. Nevertheless, it is worth considering what might be done to detect colon and rectal cancer—a common disease with a sufficiently optimistic outlook (compared, say, with lung cancer) to warrant the belief that finding early cases might be worth while. At present about 45% of the patients with large bowel cancer will die of the disease within five years of presentation: in the USA 50 000 persons will die of it this year.

The outcome of treatment of large bowel cancer is closely related to the stage of progression of the disease when first diagnosed. On the Dukes classification stage A is a tumour limited to the submucosa, B is with invasion through the muscularis without nodal metastasis, and C with spread to the nodes. The five-year survival of stage A lesions was 61-81%, stage B 39-64%, and stage C 27-28% in two major surveys of British and American experience of rectal carcinoma.^{1 2} The argument is that if cases were found earlier more would be in stage A and B and the results of treatment would be better.

In the USA, where the annual medical check-up is in vogue, the American Cancer Society's advertising campaign extols the virtues of annual proctoscopy for the over-40s. Such procedures are in practice confined to the middle and upper classes, so that they only touch the tip of the iceberg of the population at risk. The benefits are hard to judge objectively for the lack of suitable data for analysis. One trial begun in 1964 is worth attention.³ Two groups of subscribers to the Kaiser-Permanente health insurance plan aged 35-54 were studied. One group of 5156 were urged to attend for annual multiphasic health check ups, while a second control group of 5557 were left free to seek medical advice as they chose. After seven years there had been 40 deaths from cancer of all sites in the study group and 62 in the controls, but there had been only two deaths from colon cancer in the study group and ten in the controls. There was also a higher rate of detection of benign tumours of the colon in the study group. The trend in this small experiment suggests that the annual examination may have some merit so far as colorectal cancer is concerned, but the evidence is only tentative.

The carcinoembryonic antigen (CEA) was hoped to provide the basis of a screening test for bowel cancer to be used in the population at large. Nevertheless, extensive investigations in recent years have largely dismissed this idea. A study begun in 1969 in Busselton, Western Australia, illustrates the problems that would arise if the CEA test was used for mass screening.⁴ In an unselected population of 956 persons over the age of 60 a